pay to CLECs.

Let me just draw you a picture to explain it. I will try to keep this simple. We got the CLEC switch, and then we've got Verizon's tandem, and then behind Verizon's tandem are also then a number of end office switches.

Now, if we are doing one-way trunking with a CLEC, there would be trunks to the tandem carrying the calls from the CLEC customers to Verizon's network.

You would also have trunks from the tandem going the other way. These would be carrying calls from Verizon's customers to the CLEC's network.

Now, in this arrangement, the operational performance or the trunk blocking that would occur on this trunk group, Verizon is on the hook to pay money CLECs, if we mess up, and if that gets back.

One way that we engineered--

MS. FARROBA: I'm sorry, just for the record, on "this," when you said "this," you were referring to the one-way trunks there Verizon to the CLEC?

MR. ALBERT: Right. The one-way trunks from Verizon to CLEC, the particular phraseology that we use is that these are dedicated final trunks to the CLEC. This is the trunk group where blocking would occur. And correspondingly, in our operational performance measures, this is the trunk group we are on the hook to pay money if we have repeated blocking.

Now, we are responsible for the engineering for the sizing of these trunk groups of the dedicated final trunk groups to the CLEC. We are responsible to monitor it, and we're responsible--we are on the hook, I guess, according to the law, to provide interconnection there that's equal to what we do for ourselves throughout the rest of our network.

Now, the other types of trunks that we put in, when we were talking about direct end office trunks, that would be a trunk group from the end office to the CLEC. I will call it a direct end office.

And there is a third piece to complete the

whole picture. There was also a trunk group called a common final, which runs from Verizon's end office to Verizon's tandem.

And when there is no direct end office trunk group, all of the calls from the end user in the end office here, have to go through the tandem and then have to go over to the CLEC that way. Once we establish a direct end office group, these groups don't block; by virtue of design, they're called also high usage groups. They accept calls to the point where they fill up. And once they're full, that call then destined for the CLEC rather than going on the group that's not full, it will now go up to the tandem and come across the final trunk group at this point, then, where potential blocking would occur.

Why the DS1 threshold is important to us, and why it's something that we use in our own network is it's a significant engineering tool for us to be able to relieve and not have a curve trunk blocking on this main trunk group. What we do is, as we monitor this dedicated final trunk group, and

as calls are building up, one way to deload that and to reduce blocking if it were to occur, is to then establish direct end office trunking.

MS. DAILEY: Is the direct end office trunk always one way from the end office to the CLEC, from the Verizon end office to the CLEC?

MR. ALBERT: No. You could have three different options. If we are using one-way trunking with CLEC, you would have--you could have a direct end office going this way, and they could also have a direct end office going back to us. So, it's their choice on the direct end office traffic coming to us. We are doing the engineering on the direct end offices coming to them.

If you want to go to the full extent, if we are doing two-way trunking with a CLEC, then you would have one single trunk group, I could draw an arrow on the other end of this, and that would be used as an end office trunk group by both parties.

So, where this DS1 threshold becomes important or where it's important to us besides it's the design approach that we use for the

quality in our own network, it also allows us to engineer and to manage and monitor the quality of the blocking that we have on the CLEC. Without the DS1 threshold, we are in a much greater potential of having trunk blocking occurring.

So, that's one aspect of the DS1 threshold. The other aspect of it, the really two important pieces to us, is the tandem exhaust, and the fact we got tandems that poop out, that they get to big, and they can't get any bigger.

In have Virginia in particular, we've had four pooping out in 2001, 2002, and 2003. If you do some rough projections looking into the future, we also probably within the next, I don't know, three, four, five years, we have also got Leesburg and Fredericksburg and Culpeper that will be getting close to pooping out.

What happens when the tandem poops out, it just physically can't be grown anymore. We then have to put in a new tandem switch. And that's something that's--a new tandem switch is a disruption and a disadvantage for everybody. For

all carriers. It's additional disruption and additional work for CLECs, for IXCs, for wireless, as well as for ourselves.

MS. FARROBA: How long does it take to put in a new tandem switch?

MR. ALBERT: It really depends on the cutover strategy we have in a particular geography. They tend to vary significantly from one to the next, so you tend to get quite a range of the total time to put in the new tandem and then to work all of the cutovers.

In a very straightforward case; let's say we got one big LATA that's currently got one tandem switch in it, let's say, and it poops out. Let's say this would be like Norfolk, okay? Typically, but not always, we then will come along and put another tandem switch, and where previously all of the end offices were trunked to that one tandem, what we would do then with the relief tandem is we start throwing some of these end offices to now home off with the new tandem. So, those might stay where they were when the new tandem came in, and

these, which previously had gone to the old tandem, we would throw to the new tandem.

It's a pain in a neck. That's not only us that has to throw our own internal trunk groups, but then all other carriers, big and small, IXCs, CLECs, wireless, everybody has to rehome and rearrange their network to get to the new tandem.

You asked how long. I have seen this get done 12 months, real lickity-split. We've had others that have taken us up to three years. We have one now that's going to be going into Arlington. We are going to put a new tandem in for the WASHMAT area. And that's going to be a big mess because we got a lot of rearranging not only to redo the trunk groups, but when the Arlington tandem goes in, to also rearrange with the tandem that handles access and the tandem that handles local.

So the complexity can vary significantly based on the area we are relieving, and that's why you could get the variation of 12 months is the fast and the three years for something quite

complicated.

So, there's two important aspects, there's the trunk blocking that the DS1 relates and then the tandem exhaust.

MS. KELLEY: Okay. Thank you for the summary. Because that's what I was going to say. It was quite something, but as I understand it, you identified two things. One, the DS1 threshold, and we've already talked about the 200,000 minutes and we talked about the fact that in WorldCom's proposal we propose direct end office trunking on terms probably more acceptable to you than yours are. And what's left is the tandem exhaust issue, and I gather that's what you explained.

So, just so I'm clear, when I asked you if this 241 trunk or 240-trunk limit was in response to a concern about tandem exhaust, I gather from that the answer is yes.

MR. ALBERT: Yes.

MS. KELLEY: I am going to have a couple of questions. We're distributing what is going to be marked as WorldCom Exhibit 42 and WorldCom

Exhibit 43. It's on its way to you. I will go ahead and describe it.

The first is a page from the Verizon Web site. It describes type 2-A interconnection service.

The second is a page from tariff FCC number one, and that's Verizon tariff FCC number one.

(WorldCom Exhibit Nos. 42 and 43 were marked for identification.)

MS. KELLEY: Do you have those in front of you now?

MR. ALBERT: We are flipping the coin on who is going to answer this on between the two of us.

MS. KELLEY: I will be happy to accept whatever wins or loses the coin float depending on how you see it.

I'd like to talk first about wireless carriers and refer you to this type 2-A interconnection service page.

Now, this is again from the Verizon Web site; it's from the wireless providers section, a product and service section, type 2-A interconnection service.

I would like to direct your attention to the second paragraph. And that's the paragraph that reads: "The type 2-A tandem connection is similar to the interconnection that exists between local exchange companies, independent telephone companies, competitive local exchange carriers and interexchange carriers."

Do you see that?

MR. ALBERT: Yes.

MS. KELLEY: Then I would like to direct that you to the portion of this that goes on to talk about benefits of establishing access at tandems, and I'm reading, I guess, from the fifth paragraph. Is it says: "For only one type 2-A interconnection, access tandems can offer connections to all end offices in a LATA. Tandem connections reduce the number of direct connections required to gain access to all end users in an

area. This, in turn, reduces costs and operating expenses for the wireless provider." So, we are talking about here the advantages to a wireless carrier to connect at a tandem; is that right?

MR. D'AMICO: I just have one comment before maybe Don says something. It says all end office subtending a tandem in I think what you just read--I just wanted to point that out.

MS. KELLEY: Okay.

MR. ALBERT: Was your question, is this talking about wireless carriers? Yes, it is.

MS. KELLEY: So, my question to you is, and please review any portion of this. I'm not purporting to read all of it in, but there is no analogous limit, is there, to what we have been talking about?

MR. ALBERT: Not on this page. When we negotiate our Interconnection Agreements with the wireless carrier, we tried to negotiate the exact same terms from the DS1 threshold and also the 240.

MS. KELLEY: But in terms of the product offering, that's not part of the offering that you

have here; isn't that right?

MR. ALBERT: It's not part of this description, but we have Interconnection Agreements with wireless carriers. That's how they buy stuff from us, and those are what spell out the terms and the conditions.

MS. KELLEY: So, is it your testimony today that every interconnection agreement you have with the wireless carrier contains an analogous 240 trunk restriction to the one we have been discussing?

MR. ALBERT: No.

MS. KELLEY: I would like to you look at what's been marked as WorldCom Exhibit 43, please. And again, this is a portion of Verizon's FCC tariff number one, and I'm going to do my best to get this right. It's Section 6.1.2.A.6.J. And this talks about interface group 10.

I'm right, aren't I, that pursuant to this product, interexchange carriers can buy the equivalent of 4,032 trunks in that increment?

MR. ALBERT: I'm really not familiar with

this tariff.

MS. KELLEY: Take a moment to read it. Take as long as you'd like.

MR. ALBERT: I mean, I see it's from our switched access services, but I'm really not familiar with what this is.

MS. KELLEY: Well, based on what it says, am I right that it provides increments of 4,032?

MR. ALBERT: That's the number of voice grade circuits that's talked about, but I guess I can't quite figure out just from this snippet if this is--really we are talking about the transport or if this is the interfaces on the switches themselves.

MS. KELLEY: We have the entire--that big portion of the tariff. I would be happy to provide it to you if you want to look at it in context. If at a break you want to look at it and come back to me, that would be fine with me as well. Would that help you answer the question?

MR. ALBERT: It's might.

MS. KELLEY: It's up to the Commission if

they'd like him to do it at a break. I don't want to slow things down.

MR. ALBERT: I just not familiar with this particular service offering.

MR. EDWARDS: Well, what we could do is if you want to provide it at the break, we could look at it and see whether it helps. He may not be the person to answer the question.

MR. DYGERT: Why don't we will see what can be accomplished during a break and take it from there.

MR. ALBERT: What's throwing me is all of the switch interfaces are DS1s, and this is talking about DS3s, and that's what makes me think more this is transport oriented, but if you got the whole shebang we could look at, maybe I could figure out what it is.

MS. KELLEY: I do, we'll provide that and we will finish up that part at that point, if that's okay.

I would like to turn to issue III-3, and I'm just going to quickly pass around what we

marked as WorldCom Exhibit 44.

(WorldCom Exhibit No. 44 was marked for identification.)

MR. DYGERT: Just so I'm clear, I don't think you have moved the admission of any of your exhibits yet. Is that correct?

MS. KELLEY: No, I was going to do it in one fell swoop to try to move it along. If you prefer that we do it one at a time, that's okay.

MR. DYGERT: It doesn't matter.

MS. KELLEY: I will go ahead and pass out the next three. They will be Exhibits 44, 45, and 46. Each of them are Verizon Virginia responses to WorldCom's data requests.

(WorldCom Exhibit Nos. 45 and 46 were marked for identification.)

MS. KELLEY: Just so the record is clear, WorldCom Exhibit 44 is the data request that on the second page is numbered Verizon Virginia Number 143. WorldCom Exhibit 45 is labeled Verizon Virginia 146, and WorldCom Exhibit Number 46 is

numbered Verizon Virginia Number 149.

Now, WorldCom Exhibit 44, again, it's a discovery question and reply. The question is, is the fiber meet point form of interconnection technically feasible.

And the reply in relevant part is, mid-span fiber meet and end-point fiber meet which is provided for in the Verizon model Interconnection Agreement are technically feasible in many cases.

In WorldCom 45, which is Verizon Virginia number 146, we asked to describe what Verizon means by an end-point fiber meet, which is referenced in your last response. And the answer here is an end-point fiber meet is similar to an entrance facility; however, instead of Verizon placing the terminating electronics at both ends of the facility in addition to the fiber in between, it places only the terminating electronics in its serving wire center. The CLEC places the terminating electronics at its end of the facility, and the fiber that Verizon has delivered to the

CLEC office.

It also references a diagram, but we don't have the diagram attached, and we weren't able to get it for today.

So, now my question to you is, there was testimony earlier, and I don't know if you heard it or not, but where we discussed this end-point fiber meet, I believe. We talked about Verizon laying fiber from its facility to the CLEC's facility. The CLEC putting its equipment on one end and Verizon being responsible for putting equipment on the Verizon end.

Do you recall that testimony?

MR. ALBERT: I remember you talking about mid-span meets earlier.

MS. KELLEY: And am I right that this is the same architecture that we were talking about this morn something.

MR. ALBERT: No.

MS. KELLEY: This is a different thing?

MR. ALBERT: Um-hmm.

MS. KELLEY: Let me understand what this

is.

MR. ALBERT: Let me draw for you.

MS. KELLEY: Let me just ask real quick before we're going to go off this really simple question. An end-point fiber meet involves Verizon putting fiber in the ground, Verizon putting equipment on its end, and CLEC putting equipment on its end; is that right?

MR. ALBERT: The ones of these that we have done basically have already had fiber going into the CLEC's location. It turns out they have been CLECs that were in our exchange carriers, so we already had facilities built there. What those particular carriers wanted to do and what we worked out with them was an interconnection arrangement, the name of which happens to be end-point fiber meet is they wanted to use Verizon's in-place fiber, but to stick their sonic multiplexer on their end, and we would operate our sonic multiplexer on our end, so you have an interconnection arrangement where each party owns the electronics on the ends, but Verizon basically

owns all the fiber in between, and we have done these in the case of where we already had fiber built into the particular locations that the CLEC was operating.

MS. KELLEY: Am I right that the only difference between what I described and what you described is you already had the fiber in the ground, you didn't have to put it in the ground, it was already there, going to the CLEC's facility?

MR. ALBERT: Right, and it was Verizon fiber.

MS. KELLEY: It was Verizon fiber. Okay.

MR. KEHOE: Could I ask a question about the end-point fiber meet. In WorldCom Exhibit 45, it talks about Verizon delivering the fiber to the CLEC office to a fiber distribution frame.

Would that, in your understanding, be a fiber distribution frame that the CLEC would own? Or would it be a Verizon fiber distribution frame?

MR. ALBERT: I'm sorry?

MR. KEHOE: It's WorldCom Exhibit 45, if I numbered them correctly.

MR. ALBERT: Yeah, but does that say WorldCom I-9?

MR. GOYAL: I-6.

MR. ALBERT: Really, you could do it either way. The ones I'm familiar with, the CLEC is owned the fiber distribution frame on their premise. Basically what we have done, though, is we've used that as the demarcation point. We've used that as the test point between our fiber and CLEC's electronics.

MR. KEHOE: Thank you.

MR. ALBERT: Would we be willing in negotiations to put in the fiber distribution frame ourselves, yes, we would. The couple I'm familiar with, the CLECs put it in.

It's important to have one. You could always kind of work it out who owns it.

MR. KEHOE: Thank you.

MS. KELLEY: We have one last exhibit, but while that's going around, I just want to confirm that the last ones, because we are going to move this all in at the end, WorldCom Exhibit 46, I'm

not going to read the whole thing in unless some party wants me to, but this is the question and the answer in which Verizon explains any compensation that would be due for use of this end-point fiber meet. And I guess if you would just read it and confirm that that's accurate for me, I would appreciate it.

MR. ALBERT: They don't trust me to do much with the money stuff. So the rates and the costs and the tariffs are Pete's.

MR. D'AMICO: Again, the few that we've done, there is a separate Memorandum of Understanding that covers the pricing of this, and this is an example of what would happen.

Again, this is an end point versus a midpoint fiber.

(WorldCom Exhibit No. 47 was marked for identification.)

MS. KELLEY: Okay. We distributed what had been work marked WorldCom 47. It's a depiction of fiber meet architecture.

Again, we discussed this a little. There

was discussion this morning about this, and in which WorldCom explained its preferred architecture involved technology a ring technology where Verizon lays fiber from its facility to WorldCom's, WorldCom lays fiber from its facility back to Verizon's, each party puts their equipment on either end, and this is just designed to depict that in very simple form.

Now, I'm right, aren't I, that this is a technically feasible form of interconnection, the one that's depicted?

MR. ALBERT: It depends how you do it. Some ways you could do it where it would be and some ways where it wouldn't be.

MS. KELLEY: Let me ask you, we just talked about this end-point fiber meet that you have actually in your contract that you proposed.

As I understand this, this is essentially identical. The only difference is there is an extra fiber so that instead of just one piece of fiber, there's a ring.

MR. ALBERT: I wouldn't describe them as

essentially identical because there are some fairly major differences and then depending on the further particulars and details associated with how you implement it, there could be some additional big differences.

So, if you do a full collapsed ring on a single fiber cable sheath, there are differences with that as opposed to if you have two different fiber cable sheaths.

When you get into the operation of fiber-optic terminals and how you do a meet where one party owns one end and the other party owns the other end, there are a number of details associated with how you handle the maintenance, how you handle the operations, and how you handle the testing, that depending on how those are resolved or not resolved to me determines if it's technically feasible or not.

The data communications channel which is part of the overall sonic overhead, which is kind of the key to the city to getting into the muxes as well as a lot of the downstream electronics as well

as a lot of the downstream operations system, if you were wont to do a fiber meet and to have that turns on and operational, I would say from a perspective network security network reliability that that was not technically feasible.

So, when you start to get into some of the very detailed but needed to be addressed unique particulars, you could have flavors of them that would not be technically feasible, and then you could have flavors, a lot of which we've done and worked out that are technically feasible. It really matters how all those details are handled.

MS. KELLEY: Are you aware that other incumbent LECs including AmeriTech, Pacific Bell, Southwestern Bell have established this type of connection with WorldCom?

MR. ALBERT: No.

MS. KELLEY: Are you aware that WorldCom has been trying to establish this architecture with Verizon for a number of years, but hasn't been able to even though it has been able to with Ameritech, Pacific Bell and SWBT?

MR. ALBERT: When you say haven't been able to, you mean put it into an interconnection agreement? I mean, I--the people worked for me that would be involved with actually working out one of these in real life. I've got the managers and in Verizon East who do the point of interconnection planning. Basically what those engineering managers do is they work with the CLECs and they pick the methods and locations and all the technical details associated with performing the interconnection, and then we implement it.

And I can't recall one real live location that WorldCom has come to us to ask to do this.

Now, if you did, would we look at it and see--work on something and maybe try and figure it out? Yes, we would. So far we topped off the co-los for the most part for the interconnections that we've done with WorldCom, and in a few cases we got existing entrance facilities and we've used those. Those have been the two primary methods that currently exist and that we've used, and we really don't have any type of a fiber-optic meet

arrangement in place with WorldCom, nor am I aware of the guys asking to us do it in Virginia.

MS. KELLEY: You've testified that if we came to you and asked for this, you would sit down and try to work it out. That suggests to me that you think at least it could be technically feasible.

In fact, I think you said that in many different configurations it would be. Maybe there would be some that wouldn't, but there would be a number that would.

MR. ALBERT: Depending on how the parties would define the details relating to the means that the fiber-optic terminals talk to each other, their tie-ins to the operations systems, the overall data communications channel, which governs being able to get from one system into another system. If you address appropriately and correctly all those items, then there are ways that are technically feasible that you could do, but you could also muck that stuff up where they want to be smart and there would be a lot of dangers and we won't agree to do

that.

MS. KELLEY: I don't want to spend too much time on this, but I would like you to look at our proposed contract language on this point. I will try to find the page in the JDPL to make this a little easier for you. The particular example I just want to use is found on page 78 of the JDPL. It's our proposed contract 1.1.5.2.1. Did you find that?

MR. ALBERT: Yep.

MS. KELLEY: So, I think you mentioned when you were talking about concerns with the data communication channel, whether it would be on or off, and this indicates that--I'm not going to read the whole thing, but that it would be off.

MR. ALBERT: Actually the way I read this when I was looking at it is, you were saying it would be off unless you guys decided it would be on. And I guess that's the big hangup I had with a number of the T's of C's on mid-span meets is it was like, yeah, the parties would decide unless MCI wanted to do something different, and then it was

MCI dictating to us that particular level of detail.

The mid-span meets that we have done and done successfully we have always been able to work the details out with people and do them, but you got to have mutual agreement, and what scared the crap out of me is I had contract where you've got the unilateral ability to kind of dictate all the things that we ought to be mutually figuring out how to do, many of which would either cost us a bundle of money or in some cases be technically not feasible.

MS. KELLEY: Have you reviewed MCI's proposed contract language?

MR. ALBERT: Yeah, I've read all this. That's why I got my notes going "whoa."

MS. KELLEY: And so it's your view that this could be worked out and put down in writing.

MR. ALBERT: I think, as we have done with others, the details associated with the specific mid-span fiber meet can be worked out. All right? Doing it with these broad platitudes and these

gross generalities and putting them in a contract that I'm on the hook for, that to me doesn't make a whole lot of sense, but we have done mid-span meets with other carriers, and we have found ways to address the engineering and the operational in the capacity management issues with other carriers, but leaving totally open-ended for MCI to decide, that's where I had a big monkey wrench.

MS. KELLEY: But you had these agreements with other carriers?

MR. ALBERT: We have one with Cox. Each mid-span meets will have a memorandum of understanding that will go through and basically work out those particulars associated with that unique mid-span meet at that location.

MS. KELLEY: But those basic technical specs, whatever details they are that you've worked out those could go in an Interconnection Agreement, couldn't they? To the extent that you have certain concerns about specific details that you've testified about today, those could be resolved and included in an Interconnection Agreement so that if

MCI wanted to deploy this kind of architecture with you, we would have an agreement in place that we could do that. That could be done, couldn't it?

MR. ALBERT: No. The one big variable I run into from the ones that we've worked on, surprise, surprise, but always the contentious point is the aspect of who is going to pay how much. And depending on the particulars of the terms and conditions and depending on how those overlay on a very specific situation, specific pair of central offices, that there are a number of things that really are unique to that mid-span meet at that place and that technical configuration, a number of which drive costs and a number of which you really can't agree to until you worked particulars out for that mid-span meet in a Memorandum of Understanding.

MS. KELLEY: Just one simple question for you. In terms of this architecture, this diagram we passed out, it's our Exhibit 47, and I'm going to tell you what my understanding is, and I just want to make sure it's yours.

My understanding is that with this proposal of WorldCom's, we proposed to install the fiber in the ground from our wire center to yours and bear those costs, that you would bear the costs of installing the fiber, and sometimes you already have it from yours to ours, that we would be responsible for the electronics at our end, you would be responsible for the equipment at your end, that each party would maintain the piece of the CLLE that they put in place.

I just want to make sure, is that your understanding of our proposal as well?

MR. ALBERT: To that very high level view to the extent that it goes, yes.

MS. KELLEY: I don't have anything else.

MS. FARROBA: Could I ask a couple of clarifying questions.

On the mid-span meets, does Verizon have concerns about those being established in manholes?

MR. ALBERT: Yes.

MS. FARROBA: Okay. Could you elaborate on what those concerns are.

MR. ALBERT: They're very deep, dark, dank, disgusting places to have to go to to hook up fiber optics.

What we do when we do a mid-span meet is we will have a fiber distribution panel that the CLEC's fibers run into, and that Verizon's fibers run into. This is getting where the fibers are going to actually touch each other.

In that fiber distribution panel is basically place a place where you could make connections and make disconnections, make connections and make disconnections with the right hardware to accommodate making those connections. Then it also has a point where you could test the fiber circuits where the fiber on one side that belongs to Verizon and the fiber on the other side that belongs to the CLEC, you could test that.

That particular little piece of hardware, in the vernacular we call that a light guide cross-connect six-pack because it's six fibers that come in and it almost looks like these little plug-ins on the coax that run into your television

set. That particular hardware currently doesn't come in an enclosure that's waterproof. So, consequently, our manholes, a lot of them, frequently get wet, frequently fill up with water, and a lot of time you go by and you'll see our trucks out there and they're just pumping water out of the manholes, so building that type of a hardware interconnection in a manhole is not a real swift move. The stuff goes bad and it doesn't work real well.

What we do and we have done a couple like this is a particular location where we are going to connect our fibers to the CLEC's fibers, if that happens to be in a location where the plant is underground, we have found a couple where we also had aerial plant, the pole lines, and what we did was the CLEC and ourselves both brought our facilities up onto a poll, and there is hardware available to do the interconnection that we mounted on the pole, and we made it that way.

So, the problem with the manhole is you don't have something that's waterproof to do what